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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,125	02/13/2004	Takehito Kobayashi	118677	4998

25944 7590 02/01/2006

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EXAMINER	
CHANDRAN, BIJU INDIRA	
ART UNIT	**PAPER NUMBER**
2835	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/777,125	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Biju Chandran	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/12/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms, sentences and paragraphs which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms and sections in the specification are:

- Page 19, line 10 "The external connection .... terminal assemblies 16.
- Page 22, last paragraph "The insulating case 3 ... in the insulating case 3".
- Page 23, last paragraph "The lower case 5 .... in response to pin 50a". The description of the grooves 5b and 5c and the pin 50a does not match that depicted in figure 1 and 2.
- Page 25, end of 1st paragraph "...a deflection regulation part 7c ....main body 7a".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claim 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the applicant means by

"connector abutment face against which the tip face of the different connector abuts is left". Although the same language is repeated in the specification (page 11, 2nd paragraph; page 44, 2nd paragraph), it is unclear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiriku et al. (US 2002/0168882 A1).

   - Regarding claim 1, Chiriku et al discloses a distribution unit (10) comprising: a power circuit section (17-19) including a plurality of bus bars (42) with electronic parts mounted on at least some of the bus bars; and an insulating case made of an insulating material for covering the power circuit section (15, 16); wherein ends of a plurality of specific bus bars included in the power circuit section are projected from a main body section of the power circuit section in a state in which they are placed near to each other to form fuse connection terminals (terminals 43 formed on the tips of bus bars 42 on which fuses 23 are plugged in – see figures 3 and 4); each of the fuse connection terminals is formed at a tip thereof with a tip placement part

to place a fuse terminal; the insulating case is opened in the projection direction of the fuse connection terminals so as to enable the fuse terminal to be placed in the tip placement part of the fuse connection terminal placed in the insulating case from the outside of the insulating case (figure 3); and the insulating case is provided with a short-circuit prevention section intervening between the fuse connection terminals (case material between the fuse terminals) for preventing a short circuit between the fuse connection terminals. Although Chiriku et al. do not explicitly disclose that the case is made of an insulating material; it would have been obvious to one of ordinary skill in the art at the time of the invention to select an electrically insulating material for the case to prevent electrical shorts between the components.

- Regarding claim 2, Chiriku et al. further disclose that the insulating case has terminal insertion passages for separately inserting the fuse connection terminals and an insulation case portion between the terminal insertion passages is formed as the short-circuit prevention section (figure 3 and 5).
- Regarding claim 3, Chiriku et al. further disclose that at least a part of the terminal insertion passage is formed as a terminal insertion hole.
- Regarding claim 4, Chiriku et al. further disclose that the insulating case is divided into a lower case (15) and an upper case (16); at least either of these cases is provided with a terminal guide groove for

guiding an external connection terminal inserted into the terminal insertion hole (see guide grooves on upper case 16 in figure 3); and as the lower case and the upper case are assembled, the terminal guide groove forms the terminal insertion hole.

- Regarding claim 5, Chiriku et al. further disclose a bus bar board (18a, 18b, 18c) including a plurality of bus bars (42) forming a power circuit connected to the power circuit section of the distribution unit; wherein the fuse connection terminal is formed as a unit side fuse connection terminal; a part of the bus bar is projected from the bus bar board in a direction along the fuse connection terminal in the proximity of the unit side fuse connection terminal to form a bus bar board side fuse connection terminal; and a fuse element (23) is placed so as to straddle the unit side fuse connection terminal and the bus bar board side fuse connection terminal (figure 3).

2. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiriku et al. in view of Von Arx et al. (US 5,598,322).

- Regarding claim 6, Chiriku et al. disclose a distribution unit (10) comprising: a circuit disposition face (inner face of case 15 on which the power circuit section is disposed); a power circuit section (17-19) including a plurality of bus bars (42) disposed on the circuit disposition face; external connection terminals (43) formed by folding up ends of

the bus bars placed near to each other from the circuit disposition face; a surround wall member (15a) disposed on the heat radiation member so as to surround the power circuit section including the external connection terminals; a connector housing (16) including a bottom having terminal through holes (166, 16c, 16f) into which the external connection terminals (20, 22) are inserted and a hood surrounding the external connection terminals (hood around the terminal through holes) projected to the opposite side to the circuit disposition face through the terminal through holes, the connector housing and the external connection terminals making up an external connection connector being connectable to a different connector; and a water resistance layer (housing 16 is water resistant); wherein at the bottom of the connector housing, an insulating projection rib (70) intervening between the external connection terminals and having a tip against which the different connector is abutted is projected toward the tip side of the external connection terminals; and the water resistance layer is formed in a state in which at least a part of the power circuit section is sealed inside the surround wall member and the water resistance layer leads to the inside of the connector housing through the terminal through hole and the top face of the water resistance layer is set higher than the bottom of the connector housing and is set lower than the tip face of the projection rib (figure 3). Chiriku et al. does not explicitly

say that the housing is made of a water resistant material, however, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the housing water resistant to prevent water from damaging components housed inside. Chiriku et al. does not disclose a heat radiation member with a circuit disposition face. Von Arx et al. disclose power control module with a heat radiation member (14) having a circuit disposition face (side marked 80). At the time of the invention, it would have been obvious to one of ordinary skill in the to incorporate the heat dissipation member with the circuit disposition face taught by Von Arx et al. in the distribution unit disclosed by Chiriku et al., to remove the heat generated by the high heat generating components (Chiriku et al., paragraph 0044).

- Regarding claim 7, Chiriku et al. further disclose that the connector housing is formed at the bottom with a resin reservoir recess sinking into the heat radiation member side (recesses seen in figure 5) and that the terminal through holes are made in the formation area of the resin reservoir recess; the projection rib is provided at the connector bottom between the terminal through holes; and the tip face of the projection rib (70), positioned corresponding to the connector-abutment face.
- Regarding claim 8, Chiriku et al. disclose a distribution unit (10) comprising: a power circuit section (17-19) including a plurality of bus

bars (42) with electronic parts mounted on at least some of the bus bars; a circuit disposition face (inner face of case 15 on which the power circuit section is disposed) on which the power circuit section is disposed; and a case for covering the power circuit section (15, 16); wherein ends of a plurality of specific bus bars included in the power circuit section are projected from the case to form external connection terminals; each of specific external connection terminals of the external connection terminals has an upright part (43) rising from the circuit disposition face and an extension part (42) extending from the tip of the upright part to the outside of the circuit disposition face substantially in parallel with the circuit disposition face; a different external terminal can be inserted into or removed from the external connection terminal through the tip part side of the extension part; and the external connection terminal is provided with a deflection regulation part (vertical walls of 16b, 16d, etc. that is shown hatched in figure 5) for abutting the upright part for regulating deflection on the opposite side to the extension direction of the extension part. Chiriku et al. does not disclose a heat radiation member with a circuit disposition face. Von Arx et al. disclose power control module with a heat radiation member (14) having a circuit disposition face (side marked 80). At the time of the invention, it would have been obvious to one of ordinary skill in the to incorporate the heat dissipation member with the circuit

disposition face taught by Von Arx et al. in the distribution unit disclosed by Chiriku et al., to remove the heat generated by the high heat generating components (Chiriku et al., paragraph 0044).

- Regarding claim 9, Chiriku et al. further discloses that the deflection regulation part is provided integrally with the case (figure 5).
- Regarding claim 10, Chiriku et al. further discloses a tip part in the extension part of each of the specific external connection terminals, a tip slot (see slot on the tip of 43) part into which a different external terminal is inserted is formed along the extension direction of the extension part.
- Regarding claim 11, Chiriku et al. further discloses a tip part in the extension part of each of the specific external connection terminals, a tip slot (see slot on the tip of 43) part into which a different external terminal is inserted is formed along the extension direction of the extension part.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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